Supplemental forcing ...

cbblanke 38 posts since

Apr 18, 2008

I can see where the supplemental forcing is set (e.g. time_interp_stg4, which puts it in the **local variables** pcp() and cpcp()). However, I can't see how this gets to any of the LSMs. The f2t routines (I am looking specifically at noah.2.7.1) just seem to use the base forcing for precip. Where is the supplemental forcing applied?

Clay Tags: precipitation, forcing, suppforcing, lis

cbblanke *38 posts since*
Apr 18, 2008 1. **Re: Supplemental forcing** Jun 18, 2008 5:17 PM

I now see where precip_stg4 set suppforc(n)%suppdata(:,:), which can be

used by an LSM (but is it?). However, time_interp_stg4, which is called later, does

not seem to set any variables that any external routines can see. Am I missing something?

cbblanke *38 posts since*
Apr 18, 2008 2. **Re: Supplemental forcing** Jun 18, 2008 6:39 PM

in response to: cbblanke OK, I guess ESMF_ArrayGetData (in time_interp_stg4) is associating the pointer pcp with the (type ESMF_Array) pcpArr, so that when pcp() is set to something, that sets the pcpArr which ESMF can access from another subroutine (f2t) using ESMF_ArrayGetData again. Am I interpreting that right? ESMF_ArrayGetData can store the local variable in an ESMF_Array, or get the ESMF_Array into the local variable?? I thought I understood Fortran but this is new to me. I am looking at the ESMF Reference Manual 1.0.5, page 130, but the example is not very enlightening to me.

ftp://ftp.ucar.edu/pub/*esmf*/*esmf*_docs/*ESMF*_1_0_5_refdoc.pdf   geiger *19 posts since*
Sep 20, 2007 3. **Re: Supplemental forcing** Jun 19, 2008 11:10 AM

in response to: cbblanke Hello,

Statements like

"call ESMF_StateGetArray(FORC_State(n),"Rainfall Rate",pcpArr, rc=status)"

get an ESMF array object. Here it finds "Rainfall Rate" in the base forcing and labels it pcpArr.

Statements like

"call ESMF_ArrayGetData(pcpArr,pcp,ESMF_DATA_REF,status)"

get data out of an ESMF array object. Here pcp is a pointer. You are not making a local copy of "Rainfall Rate", rather you are pointing to it.

So now

"pcp(c) = suppforc(n)%suppdata2(1,index) / 3600.0 "

takes the supplemental precipitation data and assigns it to pcp. pcp points to the "Rainfall Rate" data in the baseforcing. So here you are replacing the precipitation with the suppeimental data.

So when the LSM gets forcing data from f2t, it is getting any supplemental data that you are using.

Jim

cbblanke *38 posts since*
Apr 18, 2008 4. **Re: Supplemental forcing** Jun 19, 2008 12:00 PM

in response to: geiger OK, thanks. I believe I follow what is going on.